

# ATOMIC ENERGY *newsletter*®

A SERVICE FOR INDUSTRY BUSINESS ENGINEERING AND RESEARCH  
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Dear Sir:

April 17th, 1956  
Vol. 15...No 5

On a low bid of \$1,858,000.00, sub-contract has been awarded Arrington Construction Co., Inc., Idaho Falls, Idaho, for construction work at the naval reactor facility, national reactor testing station, Idaho Falls. Contract was awarded by Westinghouse Electric Corp., prime USAEC-contract operator of the naval reactor facility. The work involves site preparation for the prototype of a large ship nuclear propulsion plant, cooling tower foundation, water treatment facilities, etc. (Other BIDS ASKED, CONTRACTS AWARDED, p. 5 this LETTER.)

With increasing uranium ore production, and an impending sale for over \$3 million of an ore interest, Federal Uranium Corp. is rapidly approaching a profit-making position, according to W. B. Nebeker, president. He said Federal is now shipping ore at a rate of more than 4,000 tons monthly from two of its five producing mines. Further, he observed, Moore & Schley, New York, have contracted to purchase from Federal its 34% interest in the Daniel Ruddock ore body for \$3,350,000.00. This will enable Federal to retire its total long term note obligations consisting of \$300,000 from the Republic Bank of Dallas (due May 7th, 1956) and a \$300,000 note from Moore & Schley (due Dec. 31, 1956). (Other FINANCIAL NEWS, p. 3 this LETTER.)

Atomic Associates, Inc., eastern sales representatives specializing in the nuclear field, are now representing Nucleonic Company of America (Brooklyn, N.Y.) for the Brooklyn firm's full line of Geiger tubes, cosmic ray tubes and film badge services. Atomic Associates, first such specialty organization in the U. S., have offices in New York, Boston, and Philadelphia. (Other BUSINESS NEWS, p. 2 this LETTER.)

Apparatus for industrial radiography, which Chicago Bridge & Iron Co., Birmingham, Ala., has contracted to purchase from High Voltage Engineering Co., Cambridge, Mass., will give Chicago Bridge one of the most powerful and versatile X-ray installations in the U. S. metals industry. High Voltage will supply two Van de Graaff X-ray generators, of one and two million volts respectively, which will be used jointly by Chicago Bridge to inspect the storage and pressure vessels, nuclear reactor chambers, etc., which the firm manufactures. The two-million-volt unit enables non-destructive testing by radiography of steel up to 10-inches. (Other PRODUCT, PROCESS news, p. 4 this LETTER.)

Treaty establishing a European Atomic Energy Commission will be considered May 3, 1956, in Brussels, Belgium, at a meeting of foreign ministers of Belgium, West Germany, France, Italy, The Netherlands, and Luxembourg. Parliaments of the six countries are now in the process of approving a general resolution endorsing the Commission. The resolution was prepared under the guidance of Jean Monnet, of France. (Other INTERNATIONAL NEWS, p. 5 this LETTER.)

A research section concentrating on metallurgical problems in the atomic energy field has been established at Armour Research Foundation, Illinois Institute of Technology, Chicago. The section will work on the development of uranium base and other core alloys; development of fuel-element cladding alloys; etc.

ATOMIC ENERGY BUSINESS NEWS...

NUCLEAR POWERED AIRCRAFT CONTRACTS AWARDED:- Indicating the increasingly large scope of U.S. efforts to produce a nuclear powered aircraft, and the fact that progress is being made, were contract announcements made last fortnight. At Fort Worth, Tex., Convair division of General Dynamics Corp. said it had been awarded an Air Force contract to develop an airframe for a nuclear powered aircraft. Convair, since 1951, has been doing research and development under an Air Force contract leading to the design of such an airframe. A. C. Esenwein, manager of the Fort Worth plant, said the new contract resulted from accomplishments under the original contract.

Another new development was the announcement from Atlanta, Ga., that Lockheed Aircraft Corp. would build and operate for the Air Force a large test facility for nuclear aircraft near Dawsonville, Ga., 50 miles from Lockheed's manufacturing plant at Marietta, Ga. The Dawsonville facility is to be the largest of its type in the U.S. It will employ some 500 people on a four mile square, 10,000-sq. ft. site. The land, owned by Lockheed, is being deeded to the Air Force which will furnish funds for buildings and equipment. Construction will start this Spring, according to D. J. Haughton, general manager of Lockheed's Marietta plant. Estimates are that \$10 to \$20 million will be the initial Air Force contract.

A further step toward a nuclear powered aircraft was the Air Force announcement from Washington that it will build a \$7.5 million nuclear reactor facility at its Wright Air Development Center, Dayton, Ohio, to test the effects of radiation on parts and instruments of a nuclear aircraft. Construction at Wright will begin this June, the Air Force said, with completion scheduled for January, 1958. Construction will be done by Ralph M. Parsons Co., Los Angeles, under the direction of the Army's Corps of Engineers. The contract for the reactor will be let on a competitive bid basis, the Air Force stated. A "swimming pool" type of reactor is planned, with the entire reactor enclosed in a gas-tight, water-proof dome of heavy steel designed to contain any radioactivity that could arise from failure of the reactor.

In a move showing advance planning, the Air Force intends to build a 15,000-ft. (or more) runway at the Reactor Testing Station, Idaho Falls, Idaho, for a nuclear powered aircraft the weight of which would require a long take-off strip. A bill authorizing \$11.4 million to start construction of the runway is in the \$2 billion dollar military construction bill.

U.S. FIRM SELLS RESEARCH REACTOR ABROAD:- ACF Industries, Inc., New York, has received a firm contract to supply a nuclear research reactor to the Italian National Committee for Nuclear Research. This brings to four the number of such reactor sales made abroad by U. S. concerns. The reactor will use heavy water as a moderator, and enriched uranium as fuel, with a power level of up to 5,000 KW of heat energy. As such, it will be a modified version of the CP-5 type of reactor, which ACF is now designing for Massachusetts Institute of Technology.

MULTI-MILLION DOLLAR EXPANSION PLANNED IN NUCLEAR FIELD:- Sylvania Electric Products, Inc., New York, has announced plans for a five-year, multi-million dollar expansion program in the atomic power field. First step will be new production and development facilities for nuclear fuels and components, according to Don. G. Mitchell, Sylvania chairman and president. He said a new plant and laboratory will be built in the East, with completion scheduled for late 1957; the work will be done entirely with the company's own funds. The company said the program includes a complete "out-of-pile" fuel service for nuclear reactors to provide reactor and power industries with a complete and integrated fuel and reprocessing service. Mr. Mitchell estimated that industry production of nuclear fuels and related activities would exceed \$500 million annually by 1975. By 1970, he predicted, "at least 5%" of the U.S.'s generating capacity will be nuclear powered, and by 1980, nuclear powered capacity will be "nearly 20%".

ORGANIC MODERATED REACTOR TO BE CONSTRUCTED:- Atomics International division of North American Aviation has received a USAEC contract to construct and operate an organic moderated reactor experiment at the USAEC's reactor testing station, Idaho Falls, Idaho. NAA had done the engineering design of the reactor, under a USAEC contract. Estimated cost of the reactor is \$1.8 million, of which NAA will provide \$750,000. The reactor will have a power level of 5,000-15,000 KW of heat energy, will use the hydrocarbon diphenyl as moderator, and will use fuel elements highly enriched in uranium-235. Other bidders on the project included Monsanto Chemical Co., Mine Safety Appliance Co., Battelle Memorial Institute, and Nuclear Development Corp. of America.

ATOMIC ENERGY FINANCIAL NEWS...

PROFITABLE OPERATION OF URANIUM SUBSIDIARY IS REPORTED:- Climax Uranium Co., doing mining and milling of uranium ore, had a net profit of about \$800,000 in 1955 on gross sales of \$10 million, according to Climax Molybdenum Co., which owns 84.07% of the stock of Climax Uranium. The firm said that Climax Uranium's contract with the USAEC has over five years to go, and while milling profits are "reasonably stable", mining profits may be "quite variable". Climax Molybdenum also stated that St. Anthony Uranium, in which it owns one-half interest, has developed a "fair" ore body in northwestern New Mexico; that San Antonio Mining Co., Inc., 100% owned, which is working a small, low-grade deposit in Texas, has a contract to sell to the USAEC; and that exploration last Summer in the Kendrick Bay, Alaska, area uncovered a small, high-grade uranium ore deposit, still in the process of being explored.

NEW BUSINESS CURRENTLY FOR ATOMIC POWER IS "ERRATIC", FIRM STATES:- Although he believes that business supplying equipment for atomic power is good potentially, currently, it is erratic, Alfred Iddles, president, Babcock & Wilcox Co., told the firm's annual meeting in New York last fortnight. Mr. Iddles said that the atomic division of B&W is not making money and probably will not make money for several years. The cost of the concern's development and research on atomic power projects was \$2 million in 1955, and will probably be \$3 million in 1956, he stated. B&W does not expect to lose any money on its commercial nuclear reactor business which includes the Consolidated Edison Co. atomic power plant job, the University of Michigan's research nuclear reactor, and the new research reactor for the Government of Brazil. (B&W's net for 1956 will be less than 1955's earnings of \$14 million, but prospects are that 1957 and 1958 will show improvement over both 1955 and 1956.)

STOCK OFFERING MAY BE MADE BY BERYLLIUM FIRM:- A public offering of stock by Brush Beryllium Corp. (privately controlled) is reported to be under consideration to finance the firm's production of beryllium for the USAEC; Brush is expected to be one of the bidders on the proposals asked by the USAEC on its 500,000-lb., five year procurement program for the metal. Some 47 companies have indicated interest in the proposals, with Brush Beryllium and Beryllium Corp. of America the main companies, by virtue of their experience with the metal. Brush's plans are said to call for a small first offering to be followed by a larger one if the firm wins a sizable part of the beryllium order.

RECORD YEAR IN SALES AND EARNINGS BY FIRM MAKING REACTOR FUEL ELEMENTS:- Metals & Controls Corp. in 1955 had a record year in sales and earnings. Gross sales were up 20% to \$32,400,000 with net up 36% to \$2,270,000. One activity of the firm is the making of fuel elements for nuclear reactors, most of which is done for the USAEC on a cost-plus-fixed-fee basis. The company notes that this Government work is not expected to produce an appreciable profit in the near future; the firm will, however, be in an excellent position to supply private requirements as the atomic power industry expands.

UPWARD TREND IN NEW ORDERS REPORTED BY FIRM IN NUCLEAR FIELD:- Tracerlab, Inc., Boston nuclear products firm, expects sales to increase in 1956 but moving and "integration" expenses may result in little significant profit for the year, William E. Barbour, Jr., president, told the annual meeting in Boston last fortnight. Tracerlab has moved its Keleket X-ray division from Cincinnati to Boston, and is constructing a \$1½ million new plant near Waltham, Mass. It expects to transfer its operations there from downtown Boston this Fall. For 1955, the firm had record sales of \$12 million with a net profit of \$45,000. Tracerlab's dependence on Government business continued to decrease, the stockholders were told, with Government contracts now less than 15% of the company's business; this is believed to be an unusual situation for a firm such as Tracerlab which specializes in the atomic field. The company expects an increase of 70% in 1956 in sales of its industrial division, and an increase of 30% in its instrument division. Sales of Keleket X-ray apparatus were reported as currently running at a rate substantially above previous years. (At the time of its purchase by Tracerlab, Keleket had a carry-back tax loss of over \$1 million). Sales of radioactive cobalt therapy equipment by the Keleket division are said to be greater than that of all other manufacturers combined. New v-p of Tracerlab and general manager of Keleket division is to be M. J. Gross, of Rochester, now v-p and director of engineering of the Ritter Company, prominent X-ray equipment manufacturer. The directors also elected William E. Barbour, one of the company's founders and its president, as chairman of the board, and William O. Faxon, former v-p, as the new president.



NEW PRODUCTS, PROCESSES & INSTRUMENTS...in the nuclear field...

NEW PRODUCTS FROM MANUFACTURERS:- New glass fiber web filter media is said to be a 40% improvement over previous filter media and to provide an initial filtration efficiency of 99.97%. Used in this manufacturer's Ultra-Aire Space filter, recommended applications are in nuclear energy, photographic, pharmaceutical, and other industries requiring exceptionally clean air. Advantages of the new media are said to be less resistance to air flow; a tensile strength three times greater than previous filters; and reduced weight. --Mine Safety Appliances Co., Pittsburgh 8, Pa.

Binary scaler, Model 183, is a new instrument said to have a resolving time of one microsecond, permitting its use with radiation detectors whose basic resolving time is one microsecond or less. The instrument has eight scaling stages providing a scaling factor of 256 followed by a four digit electrically reset register.

--Nuclear Instrument & Chemical Corp., Chicago 10, Ill.

New linear amplifier, model RLI-1, is a high gain linear amplifier said to have "excellent" overload characteristics. The amplifier has a gain of 8,000 and a pulse rise time of 0.25 microseconds. Linearity is said to be better than 1%.

--Tracerlab, Inc., 130 High St., Boston 10, Mass.

Specially modified polyethelene, with its unique characteristics produced through irradiation, trade-named Hyrad, is now being offered as a jacketing material for wire and cable in such high temperature environments as jet aircraft and similar applications. Other non-electrical industrial uses for the irradiated polyethylene are as tubing to transport hot fluids and certain chemicals. --Sequoia Process Corp., Redwood City, Calif.

NOTES:- Measurement equipment catalog no. GEC-1016 lists some 80 different devices General Electric Co. offers for radiation detection, leak detection, etc., available from GE's Instrument Department, Schenectady, N. Y.

Latest issue of the Nucleus, company publication of Nuclear Instrument & Chemical Corp., Chicago, Ill., describes spectrometry techniques as applied to the measurement of gamma-emitting radioactive sources.

NEW BOOKS & OTHER PUBLICATIONS...in and about nuclear subjects...

Thermal Power From Nuclear Reactors, by A. S. Thompson, O. E. Rodgers, Studebaker-Packard Corp. A useful design reference work. 229 pages. --John Wiley & Sons, Inc., New York 16 (\$7.25).

Nuclear Notes for Industry; issue of Apr. 6, 1956. Guide to USAEC-developed information of special industrial interest. --USAEC, Oak Ridge, Tenn. (n/c).

Radioisotopes in Medicine. A USAEC publication. No. Y3.At7:2M 46/3. -- Superintendent of Documents, Wash. 25, D. C. (\$5.50).

Properties and Microstructure of Uranium Dioxide. Report of work at Atomic Energy Research Establishment, Harwell, Eng. 42 pages. British Information Services, New York 20. (\$1.04).

INTERNATIONAL ATOMIC ENERGY NEWS...

NORWAY:- Progress by this country in putting nuclear power into a commercial ocean going vessel has been considerable, according to R. A. Fayram, assistant professor of mechanical engineering, Univ. of Calif., Berkeley, who recently spent 6-months at the Joint Establishment for Nuclear Energy Research, Kjeller, Norway. Prof. Fayram, who has engaged in various phases of nuclear engineering for several years, said the launching of a nuclear propelled merchant vessel may be accomplished in Norway within three to five years.

GREAT BRITAIN:- Far reaching proposals for international control of nuclear weapons are on the agenda of the United States delegation to the United Nations disarmament subcommittee conference meeting in London this month, according to the delegation spokesman. The subcommittee is made up of delegates from the United States, Britain, the Soviet Union, France, and Canada.

SOVIET UNION:- An agreement to set up a joint nuclear energy research institute in the Soviet Union was reached last fortnight at a conference in Moscow of representatives of 11 countries: Albania, Czechoslovakia, Hungary, Bulgaria, East Germany, China, North Korea, Outer Mongolia, Poland, Rumania, and the USSR. The Soviet government has presented a 680 MEV cyclotron to the new institute, which is also getting an electrophysical laboratory from the Institute for Nuclear Problems.

ATOMIC ENERGY PATENT DIGEST...

PATENT GRANTS TO PRIVATE CONCERNS AND/OR INDIVIDUALS:- Radiation detection apparatus (used in geological prospecting) for converting penetrative radiation into electrical signals and for transmitting the signals. U. S. Pat. No. 2,739,242 issued Mar. 20, 1956; assigned to Texaco Development Corp., New York. (Inventor: Fontaine C. Armistead.)

Radioactivity and collar position logging system, for use in geological prospecting. U. S. Pats., Nos. 2,740,051, 2, issued March 27, 1956; assigned to perforating Guns Atlas Corp., Houston, Tex. (Inventors: S. A. Scherbatskoy, J.H. Castel.)

Simultaneous neutron and gamma ray well logging system. U. S. Pat. No. 2,740,053 issued Mar. 27, 1956; assigned to Perforating Guns Atlas Corp., Houston, Tex. (Inventor: S. A. Scherbatskoy.)

Device for intercepting, responding to, and giving a visible indication of radiation to which the user of the device has been exposed. U. S. Pat. No. 2,740,897 issued Mar. 27, 1956; assigned to Polaroid Corp., Cambridge, Mass. (Inventor: M. N. Fairbank.)

System for making a radioactivity log of a well. U. S. Pat. No. 2,740,898 issued Mar. 27, 1956; assigned to Well Surveys, Inc., Tulsa, Okla. (Inventor: A. H. Youmanns.)

Method for measuring the intensity of radiation at a selected point within a container. U. S. Pat. No. 2,740,899 issued Apr. 3, 1956; assigned to The Upjohn Co., Kalamazoo, Mich. (Inventor: D. G. Cummings.)

Radiation detector for sub-surface exploration. U. S. Pat. No. 2,740,900 issued Apr. 3, 1956; assigned to Texaco Development Corp., New York. (Inventors: R. J. Ruble, A. L. Tirico.)

PATENT GRANTS TO GOVERNMENTAL ORGANIZATIONS:- Metal production by electrolysis. U. S. Pat. No. 2,739,111 issued Mar. 20, 1956; assigned to United States of America (USAEC). (Inventors: R.A. Nolan, C. Marzano.)

Gated amplifier circuit. U. S. Pat. No. 2,739,237 issued Mar. 20, 1956; assigned to United States of America (USAEC). (Inventor: J. J. Stone, Jr.)

Current measuring device. U. S. Pat. No. 2,739,285 issued Mar. 20, 1956; assigned to United States of America (USAEC). (Inventor: A. A. Windsor.)

Circuit for alpha survey meter. U. S. Pat. No. 2,739,286 issued Mar. 20, 1956; assigned to United States of America (USAEC). (Inventor: R. W. Schede.)

Apparatus for the production of coatings of purified metals. U. S. Pat. No. 2,739,566 issued Mar. 27, 1956; assigned to United States of America (USAEC). (Inventors: Z. M. Shapiro, J. McDonald.)

Process for the electrolytic purification of uranium. U.S. Pat. No. 2,739,934 issued Mar. 27th, 1956; assigned to United States of America (USAEC). (Inventor: R. Kunin.)

Method of cutting a metal electrolytically. U.S. Pat. No. 2,739,935 issued Mar. 27, 1956; assigned to United States of America (USAEC). (Inventors: G. L. Kehl, I. Moch, Jr.)

Preparation of boric acid esters. U.S. Pat. No. 2,739,979 issued Mar. 27, 1956; assigned to United States of America (USAEC). (Inventors: R. F. Barnes, H. Diamond, P. R. Fields.)

BIDS ASKED, CONTRACTS AWARDED...at atomic projects...

BIDS ASKED:- Plans and specifications are now being issued by the USAEC at the reactor testing station, Idaho Falls, Idaho, for construction of additions to the SPERT control area there. The work is estimated to cost about \$120,000. Inquiries should be made to the USAEC at P.O. Box 1221, Idaho Falls, Idaho.

Bids have now been invited by the USAEC for construction of its new headquarters building near Germantown, Md. Plans and specifications are available from Voorhees, Walker, Smith & Smith, 101 Park Ave., New York, the architects on the job. The general construction work, including site preparation and provision for site utilities, will be awarded as a whole to one contractor.

Sincerely,

The Staff  
ATOMIC ENERGY NEWSLETTER

April 17th, 1956

